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Amendments to the Claims

Claims 1-2 (Cancelled)

Claim 3 (Currently amended): ~~The soil probe of claim 2~~ A soil probe for collecting soil samples, comprising:
a frame adapted to be pivotally mounted to a vehicle and having first and second sections;
a wheel rotatably mounted on the second section of the frame, and having a perimeter with a plurality of soil probes extending radially outward from the perimeter for collecting soil samples;
a hydraulic cylinder extending between the vehicle and the first section of the frame for moving the wheel between raised and lowered positions;
the first and second sections of the frame being pivotally connected such that the wheel is movable between a longitudinally extended use position and a laterally folded transport position;
each probe having an outer end for receiving and discharging the soil sample;
wherein the wheel includes a plurality of plunger assemblies, each plunger assembly being associated with one of the probes and being movable between an inoperative retracted position and an extended position within the probe to expel a soil sample from the probe;
and
wherein the plunger assemblies are biased toward the retracted position.

Claim 4 (Original): ~~The soil probe of claim 2~~ A soil probe for collecting soil samples, comprising:
a frame adapted to be pivotally mounted to a vehicle and having first and second sections;
a wheel rotatably mounted on the second section of the frame, and having a perimeter with a plurality of soil probes extending radially outward from the perimeter for collecting soil samples;
a hydraulic cylinder extending between the vehicle and the first section of the frame for moving the wheel between raised and lowered positions;

the first and second sections of the frame being pivotally connected such that the wheel is
movable between a longitudinally extended use position and a laterally folded transport
position;
each probe having an outer end for receiving and discharging the soil sample;
wherein the wheel includes a plurality of plunger assemblies, each plunger assembly being
associated with one of the probes and being movable between an inoperative retracted
position and an extended position within the probe to expel a soil sample from the probe;
and
wherein the plunger assemblies are pivotally mounted on the wheel for movement between the
retracted and extended positions.

Claim 5 (Original): ~~The soil probe of claim 2~~ A soil probe for collecting soil samples,
comprising:
a frame adapted to be pivotally mounted to a vehicle and having first and second sections;
a wheel rotatably mounted on the second section of the frame, and having a perimeter with a
plurality of soil probes extending radially outward from the perimeter for collecting soil
samples;
a hydraulic cylinder extending between the vehicle and the first section of the frame for moving
the wheel between raised and lowered positions;
the first and second sections of the frame being pivotally connected such that the wheel is
movable between a longitudinally extended use position and a laterally folded transport
position;
each probe having an outer end for receiving and discharging the soil sample;
wherein the wheel includes a plurality of plunger assemblies, each plunger assembly being
associated with one of the probes and being movable between an inoperative retracted
position and an extended position within the probe to expel a soil sample from the probe;
and
wherein the wheel includes a cam and the plunger assemblies are moved from the retracted
position to the extended position by the cam.

Claim 6 (Original): ~~The soil probe of claim 2~~ A soil probe for collecting soil samples, comprising:
a frame adapted to be pivotally mounted to a vehicle and having first and second sections;
a wheel rotatably mounted on the second section of the frame, and having a perimeter with a plurality of soil probes extending radially outward from the perimeter for collecting soil samples;
a hydraulic cylinder extending between the vehicle and the first section of the frame for moving the wheel between raised and lowered positions;
the first and second sections of the frame being pivotally connected such that the wheel is movable between a longitudinally extended use position and a laterally folded transport position;
each probe having an outer end for receiving and discharging the soil sample;
wherein the wheel includes a plurality of plunger assemblies, each plunger assembly being associated with one of the probes and being movable between an inoperative retracted position and an extended position within the probe to expel a soil sample from the probe;
and
wherein each plunger assembly includes a pivot arm and a clean out rod, the rod being aligned with the associated probe for axial movement with respect to the probe.

Claim 7 (Cancelled):

Claim 8 (Currently amended): ~~The soil probe of claim 7~~ A soil probe for collecting soil samples, comprising:
a frame adapted to be pivotally mounted to a vehicle and having first and second sections;
a wheel rotatably mounted on the second section of the frame, and having a perimeter with a plurality of soil probes extending radially outward from the perimeter for collecting soil samples;
a hydraulic cylinder extending between the vehicle and the first section of the frame for moving the wheel between raised and lowered positions;

the first and second sections of the frame being pivotally connected such that the wheel is movable between a longitudinally extended use position and a laterally folded transport position;

each probe having an outer end for receiving and discharging the soil sample;

a pin removable extending through the first and second sections to retain the wheel in the use positions; and

wherein one of the first and second frame sections includes a slot through which the pin extends to allow a range of angular movement between the first and second frame sections.

Claim 9 (Cancelled)

Claim 10 (Currently amended): ~~The soil probe of claim 1~~ A soil probe for collecting soil samples, comprising:

a frame adapted to be pivotally mounted to a vehicle and having first and second sections;

a wheel rotatably mounted on the second section of the frame, and having a perimeter with a plurality of soil probes extending radially outward from the perimeter for collecting soil samples;

a hydraulic cylinder extending between the vehicle and the first section of the frame for moving the wheel between raised and lowered positions;

the first and second sections of the frame being pivotally connected such that the wheel is movable between a longitudinally extended use position and a laterally folded transport position;

each probe having an outer end for receiving and discharging the soil sample; and

wherein a spike is positioned between adjacent probes.

Claims 11-12 (Cancelled)

Claim 13 (Currently amended): ~~The soil probe of claim 1~~ A soil probe for collecting soil samples, comprising:

a frame adapted to be pivotally mounted to a vehicle and having first and second sections;

a wheel rotatably mounted on the second section of the frame, and having a perimeter with a plurality of soil probes extending radially outward from the perimeter for collecting soil samples;
a hydraulic cylinder extending between the vehicle and the first section of the frame for moving the wheel between raised and lowered positions;
the first and second sections of the frame being pivotally connected such that the wheel is movable between a longitudinally extended use position and a laterally folded transport position;
each probe having an outer end for receiving and discharging the soil sample; and
further comprising an arm mounted on the frame and adapted to engage a portion of the wheel to prevent reverse rotation of the wheel.

Claim 14 (Cancelled)

Claim 15 (Currently amended): ~~The soil probe of claim 14~~ A soil probe for collecting soil samples, comprising:
a frame adapted to be mounted on a vehicle;
a wheel rotatably mounted on the frame;
at least one probe extending outwardly from the wheel and having an outer end adapted to receive a soil sample and an inner end;
a plunger rod mounted in the wheel for movement between a retracted position adjacent the inner end of the probe and an extended position adjacent the outer end of the probe to discharge the soil sample from the outer end of the probe;
wherein the plunger rod is mounted on an arm pivotally mounted on the wheel.

Claim 16 (Original): The soil probe of claim 15 further comprising a cam on the wheel adapted to periodically engage and pivot the arm to move the plunger rod from the retracted position to the extended position.

Claims 17-19 (Cancelled)

Claim 20 (Currently amended): The soil probe of claim ~~14~~ 15 wherein the plunger rod is biased toward the retracted position.

Claim 21 (Currently amended): The soil probe of claim ~~14~~ 15 further comprising an arm mounted on the frame and adapted to engage a portion of the wheel to prevent reverse rotation of the wheel.

Claims 22-23 (Cancelled)

Claim 24 (Currently amended): ~~The method of claim 22~~ A method for obtaining a soil sample, comprising:
rotating a wheel having a probe such that the probe penetrates the soil to collect a soil sample
through an open outer end of the probe;
continuing rotation of the wheel such that the probe is withdrawn from the soil with the soil
sample retained in the probe; and
extending a plunger rod into an inner end of the probe so as to discharge the soil sample through
the outer end of the probe;
wherein the extension of the plunger rod is automatic upon continued rotation of the wheel; and
wherein the extension of the plunger rod is by cam action.

Claim 25 (Cancelled)